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(54) **ENZYMATIC SIGNAL GENERATION AND DETECTION OF BINDING COMPLEXES IN STATIONARY FLUIDIC CHIP**

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(57) **ABSTRACT**

An embodiment of the invention relates to a device for detecting an analyte in a sample. The device comprises a fluidic network and an integrated circuitry component. The fluidic network comprises a sample zone, a cleaning zone and a detection zone. The fluidic network contains a magnetic particle and/or a signal particle. A sample containing an analyte is introduced, and the analyte interacts with the magnetic particle and/or the signal particle through affinity agents. A microcoil array or a mechanically movable permanent magnet is functionally coupled to the fluidic network, which are activatable to generate a magnetic field within a portion of the fluidic network, and move the magnetic particle from the sample zone to the detection zone. A detection element is present which detects optical or electrical signals from the signal particle, thus indicating the presence of the analyte.